



**Rockwell
Automation**

Innovation & Technology Forum

Session title: VZ11 – PanelView 5000...

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Solution Architect Safety

Agenda

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BACKGROUND

2

WHAT'S NEW IN V4

3

WHAT'S COMING NEXT?

4

LAB

PanelView™ 5000 Family

With Studio 5000 View Designer®

- User Oriented Design • Efficient Development • Runtime Productivity
 - The newest EOI family featuring Premier Logix Integration
 - Create applications for both Logix and PanelView™ 5000 in Studio 5000® – no extra activation or cost
 - Intuitive, sleek design with wide screen options and enhanced graphics

PanelView™ 5310



- Scalable solution for smaller applications

PanelView™ 5510



- High performance solution for all applications

Main Features

- Enhanced integration with Logix saves time when developing a system
 - Support for Logix-based alarm instructions
 - High-speed button control
 - Create reusable screens and Add-On Graphics with Logix-typed properties
 - Support for Logix tag extended properties
- Highly flexible animation configuration provides powerful options for presenting information
 - Binding of element properties to tags and expressions
 - Color and State tables
 - Events and commands
- Enhanced runtime operation gives operators and maintenance personnel a consistent experience with minimal development effort
 - Pre-defined diagnostic, configuration and alarm screens
 - Scaling of content to different screen sizes
 - Built-in navigation menu
 - Helpful error notifications
 - Runtime language switching



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Studio 5000 View Designer V4

- Released December 2017 with Studio 5000® V30.01.01 and also included with Studio 5000® V31
 - Data logging and historical trending
 - Emulator
 - PDF viewer
 - VNC support
 - Download from removable media
 - 4 Terminal - 1 Controller Support
 - Slider graphic element
 - Simple line tool
 - Find within selected graphic elements on a screen
 - Additional date/time format options for DateTimeDisplay element and alarm summary/alarm manager
 - Preconfigured Rockwell Automation device faceplates

PanelView™ 5510 & 5310 terminals

PanelView™ 5310



- 6", 7"W, 9"W, and 12"W sizes.
- Supports up to 50 screens and popups.
- Single Core processor
- Single Ethernet
- 24VDC

PanelView™ 5510



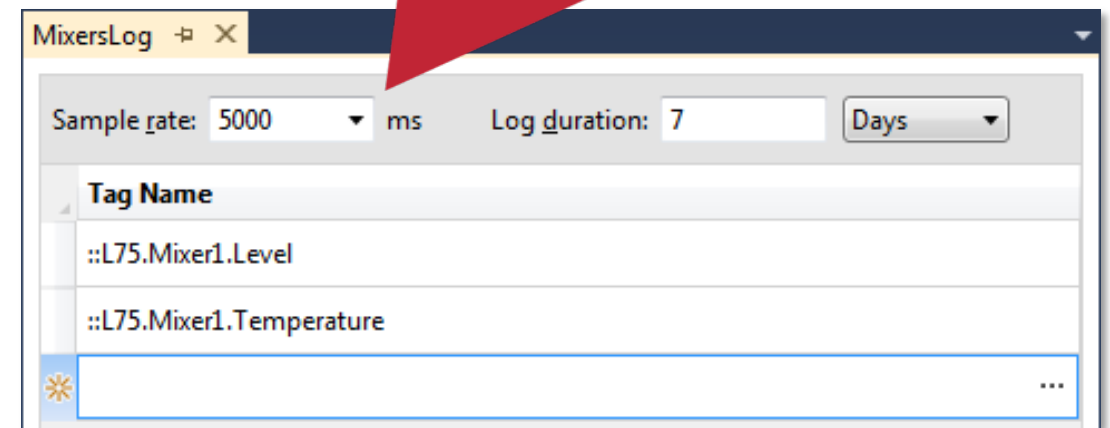
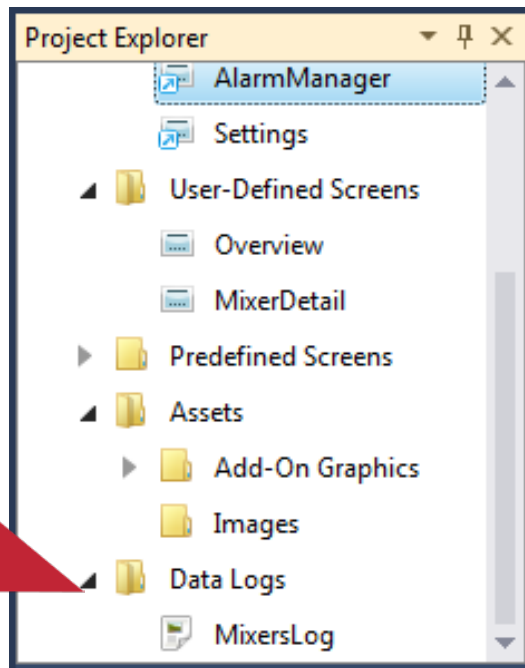
- 6.5", 7"W, 9"W, 10.4", 12"W, 15", 19"
 - NOTE / Same sizes / types as PanelView™ 5500 terminals
- Support up to 100 screens and popups
- Dual-core processor
- Device Level Ring (DLR) Ethernet
- 24 VDC
- Marine certification.
- ATEX & IECEx planned

Data logging

- Log data on the PanelView™ 5000 terminal and then display that historical data on a trend
- Up to 250 tags can be logged
- Logs are stored in circular log files
- Logs are stored on an SD card in the PanelView™ 5000
- Logs can be exported in csv format to a USB flash drive using a predefined Settings screen

Tags can be logged as fast as every 500 msec

New Data Logs folder in Project Explorer supports up to 3 different logs for different tags and rates



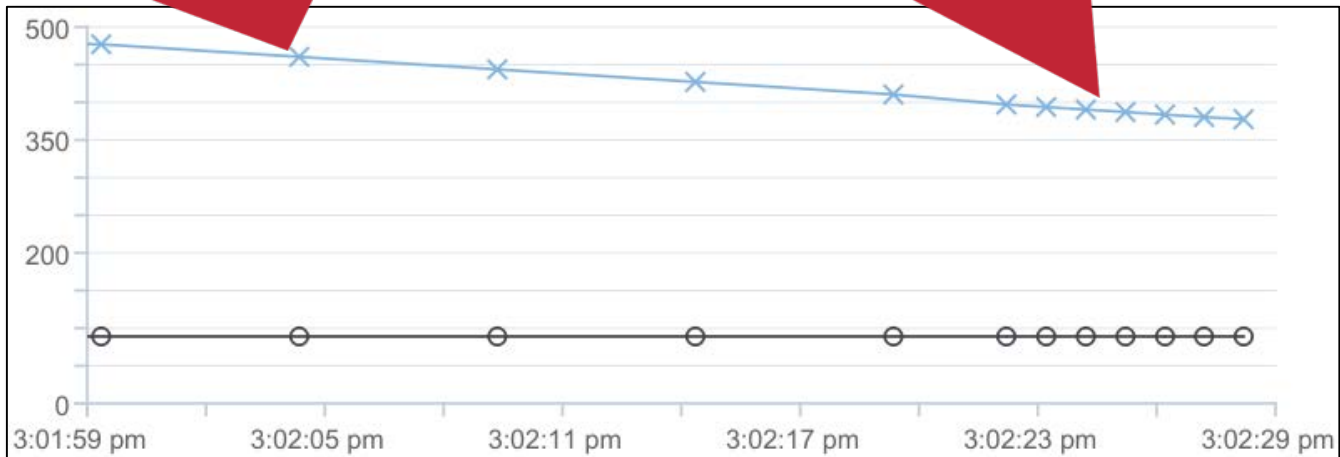
Each log can be configured for different sample rates, durations and tags

Historical trending

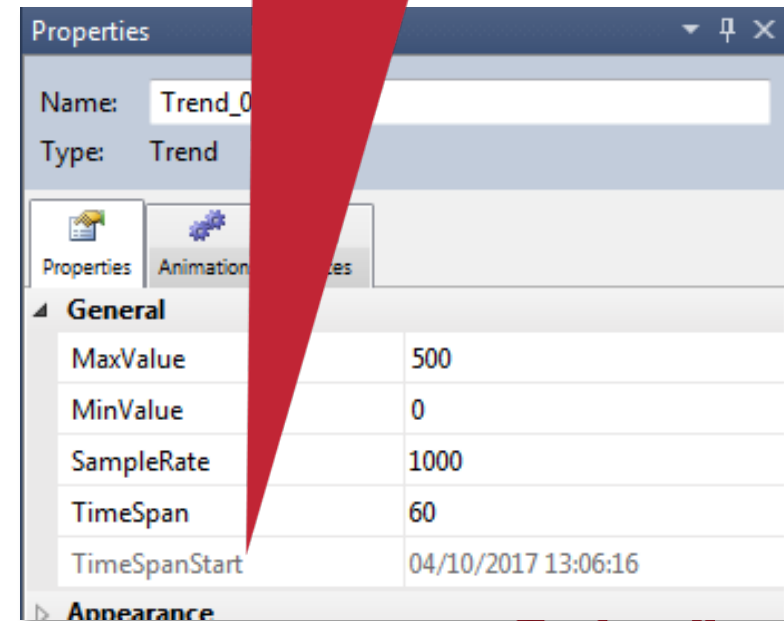
- No trend configuration is required to display logged data
 - If a trend trace is bound to a tag which is also logged, the trend will automatically show historical data if the trend is panned to a time where no real-time data exists for that tag
 - Trends show historical data immediately when the screen is displayed

Historical data shown when real-time data is not available

Real-time data is shown when it is available



New TimeSpanStart trend property can be used to instantly scroll the trend to a specific date/time



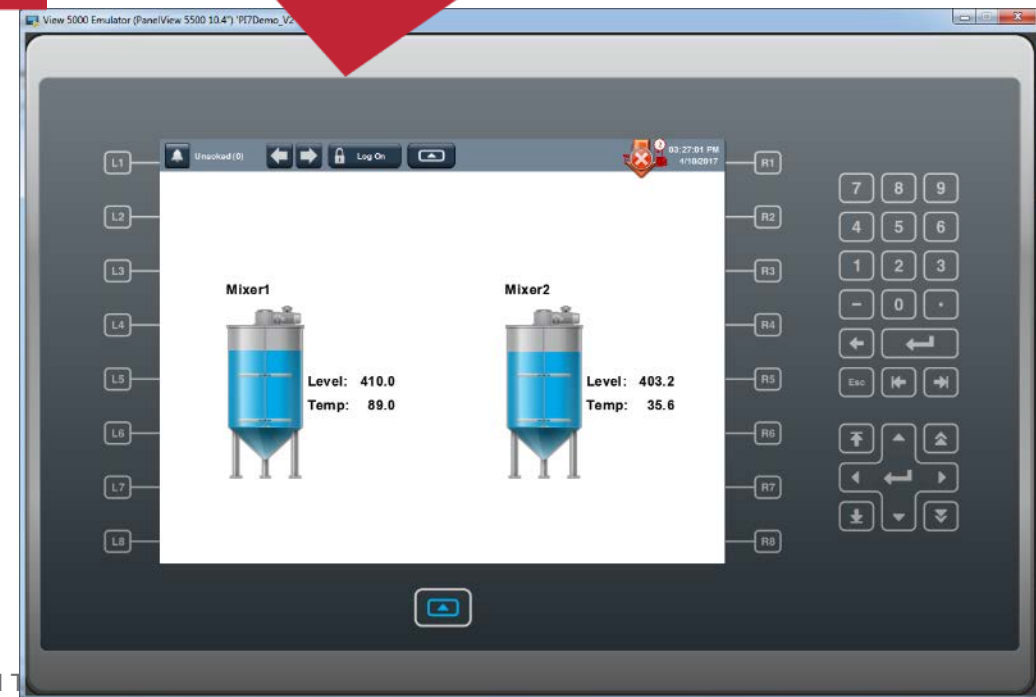
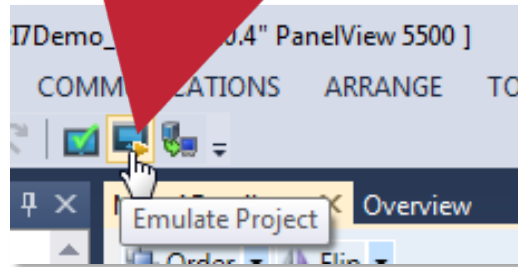
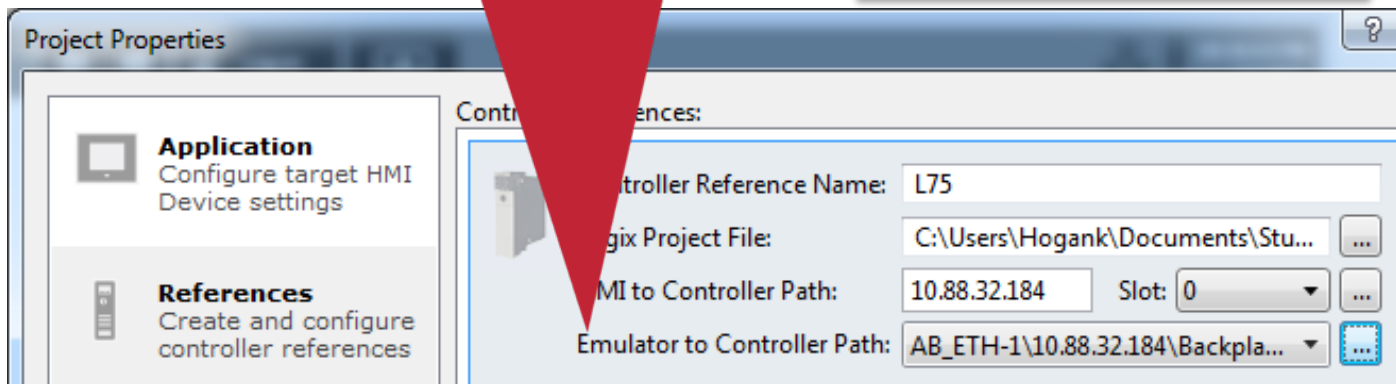
Emulator

- Emulator lets you test run a project without downloading to a physical PanelView™ 5000 terminal

New Emulator to Controller Path lets you define a unique path to a controller for emulation. It does not have to be the same controller used by the physical terminal

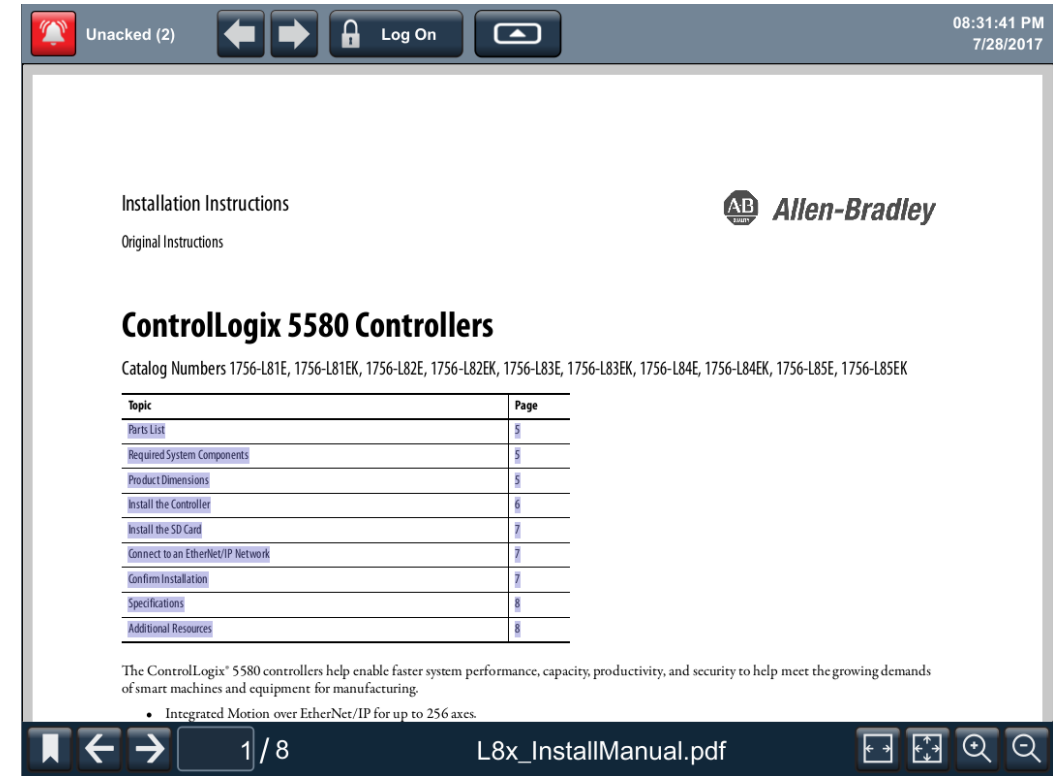
To test your project, just click the Emulate button on the toolbar

The emulator launches with a “skin” matching the PanelView™ 5000 terminal you configured for your project – including functional keypad buttons



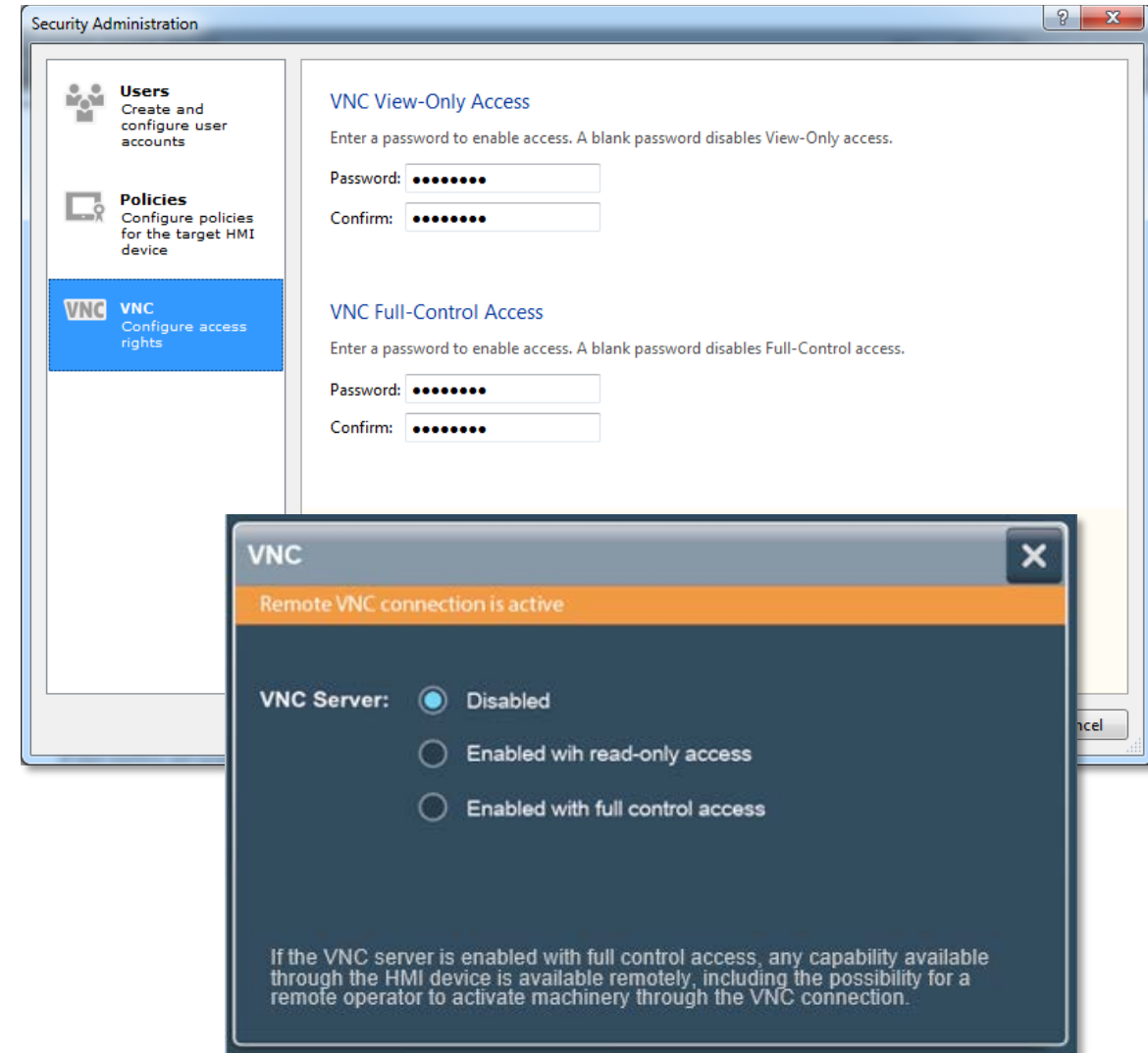
PDF Viewer

- Add PDF content to your View Designer project and then display that content in a new PDF viewer graphic element you can place wherever you want on your screens.
- PDF files can be launched to specific page numbers to quickly provide operators the information they need.
- V4 supports PDF viewer only on PanelView™ 5510.



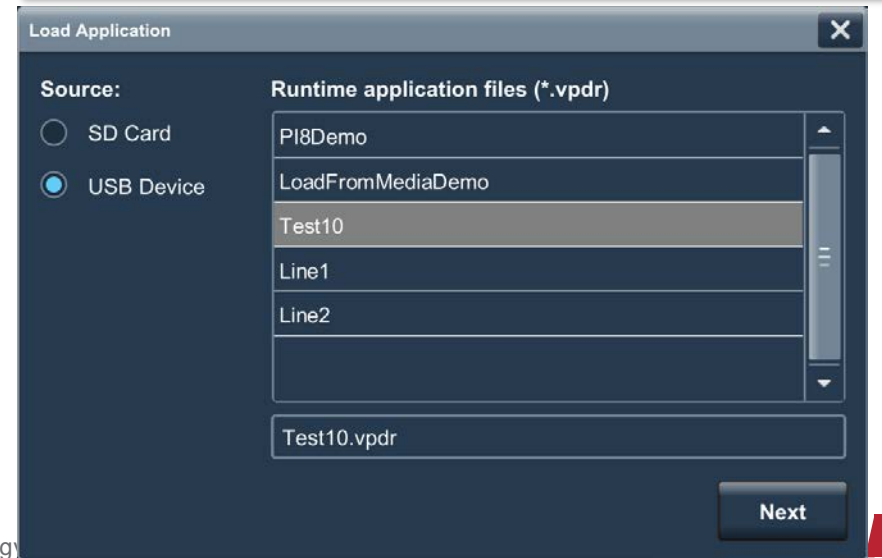
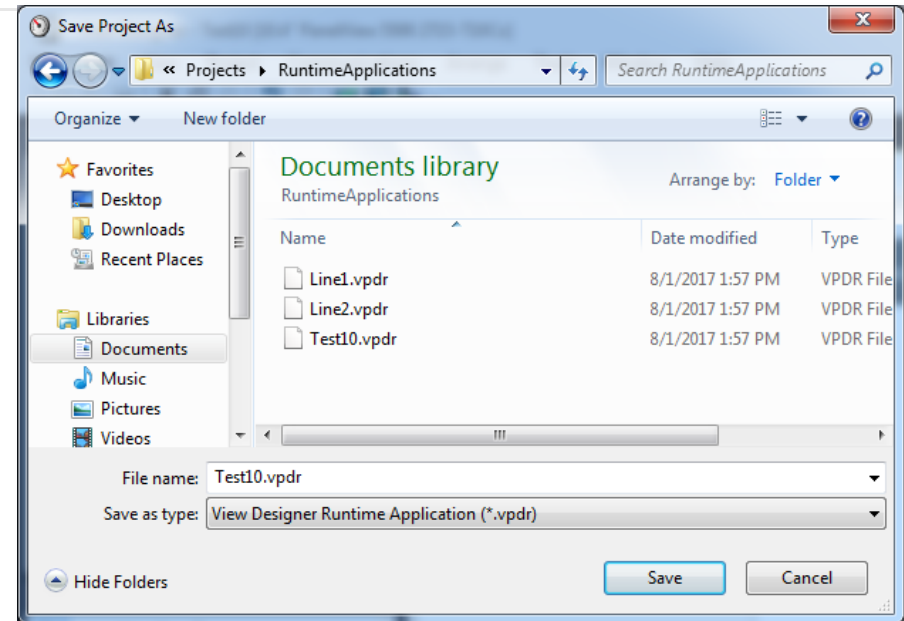
VNC support

- The PanelView™ 5000 terminals use a built-in VNC server to support a remote VNC client for monitoring and troubleshooting.
- Passwords can be configured to allow full read/write access or read-only access to only VNC client users who enter the correct password.
- A new Settings screen can be used at runtime to further lock down the PanelView™ 5000 to disallow VNC access or limit it to read-only access if desired.
- A new system tag indicates if a VNC client is connected.



Load from removable media

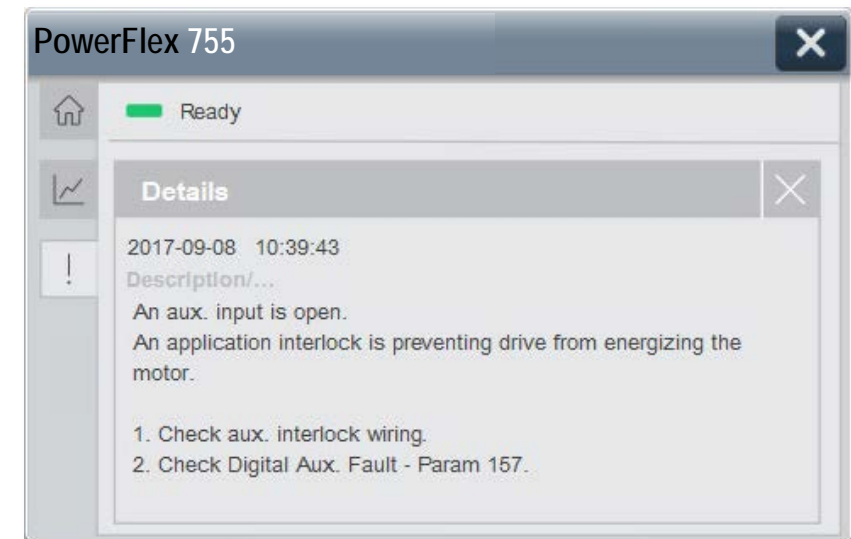
- You can save a View Designer project as a runtime image .vpdr file.
- The runtime image file can be copied to a USB flash drive or an SD card which can then be inserted into the PanelView™ 5000 terminal.
- A new Settings screen on the PanelView™ 5000 can be used to select the desired runtime image file and initiate a download to the terminal.
- Optionally, you can choose to use the “HMI to controller” path configured as part of the runtime image file or continue to use the path configured in the existing project currently running on the PanelView™ 5000.
 - Makes it easier to send an updated project to a location where you might not know the exact controller path.



Preconfigured faceplates

- Easily monitor and troubleshoot Rockwell Automation devices from your PanelView™ 5000. Initial set of faceplates include:
 - Kinetix® Servo Drives
 - Kinetix® 350, 5500, 5700, 6500
 - PowerFlex® Drives
 - PowerFlex® 525, 527, 753, 755
 - E300™ Electronic Overload Relay
 - SMC™-50 soft starter
 - ArmorStart® Distributed Motor Controllers
 - ArmorStart® 280E, 281E, 284E, 290E, 291E, 294E
- Faceplates available via PCDC in the Power Automation Device Library.
- Additional faceplates will continue to be added.

Studio 5000 Logix Designer ▾					
Studio 5000 View Designer ▾					
show all versions ▾	Downloads	4.02.00	4.01.00	3.01.00	2
Power Automation Device Library 1.0.00 <i>Tested, documented and life-cycle managed library objects for discrete, velocity & motion Rockwell Automation devices.</i>	<input type="checkbox"/> Select Files <input type="checkbox"/> Firmware Only				



View Designer and PanelView 5000 V5

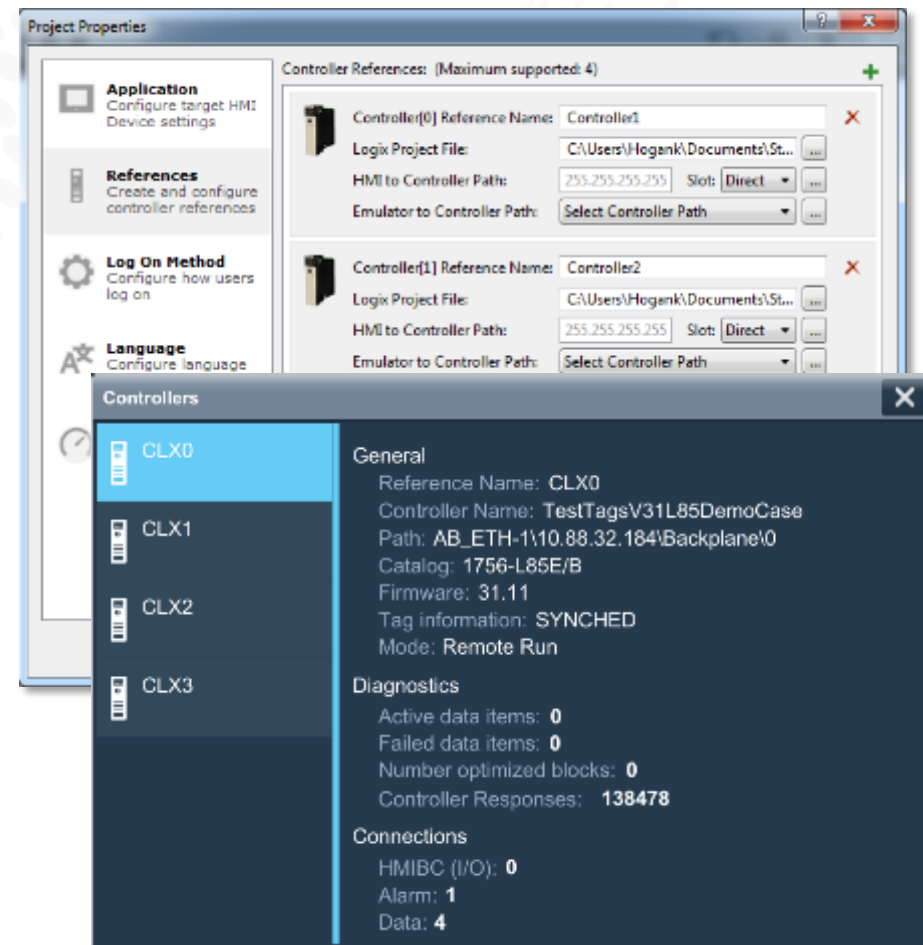
Released with Studio 5000 v32 – December 2018

- Feature Set for View Designer and PanelView 5000 v5
- 4 controllers support
- Logix tag-based alarms
- Auto logoff
- Bindable caption on popups
- Small usability enhancements:
 - Drop images, Add-On Graphics, PDFs directly from Project Explorer to the canvas
 - Inline editing of names in Project Explorer
- PanelView 5310 enhancements to support 100 screens and PDF viewer
 - Increased from 50 screens in V4
- Support for new V32 Logix data types: LINT, LREAL, USINT, UINT, UDINT, and ULINT
 - Usable in bindings and expressions

View Designer and PanelView 5000 V5

Released with Studio 5000 v32 – December 2018

- Four Controllers Support
 - Support up to four controllers in a View Designer project.
 - PanelView 5510 can now support larger, more complex projects.
 - PanelView 5310 only supports a single controller for smaller projects.
- Controllers can be of any supported type in any mix (ControlLogix, CompactLogix).
- Project Properties allows the creation of up to four controller reference cards.
- Online controller status screen shows the status of all four controllers.
- Controller status icon on system banner indicates if any controller has a problem.















View Designer and PanelView 5000 V5

Released with Studio 5000 v32 – December 2018

■ Logix Tag-based Alarms

- Support the tag-based alarm feature first introduced in Logix V31.
 - Logix tag-based alarms can be embedded in AOIs, take up less memory, and have less scan time impact to the Logix controller.
- Any mix of up to 1000 tag-based and instruction based alarms from each controller are supported.
- Both instruction-based and tag-based alarms appear in the alarm summary and alarm manager and are included in the alarm count rollups.

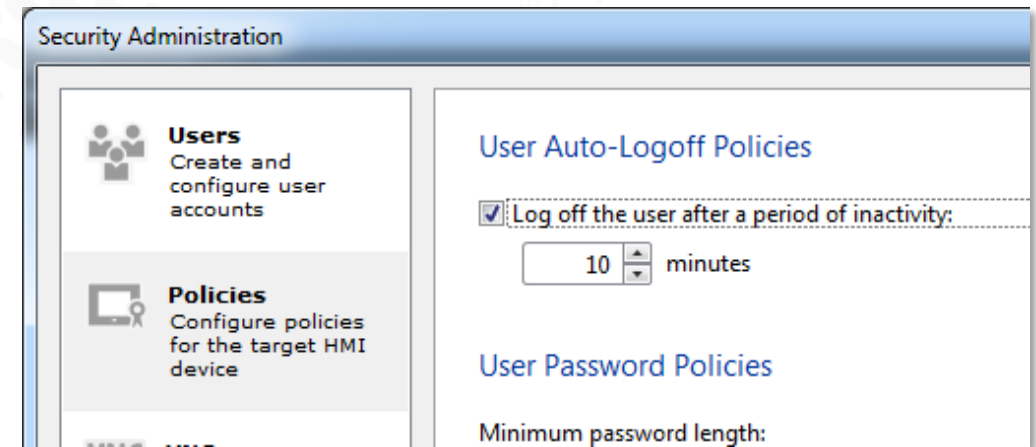
 In Alarm, Unacked (4)			 In Alarm, Acked (0)		 Normal, Unacked (0)		 Faulted (0)	
I	Alarm	Inhibit	Event Time	Condition	Alarm Name	Message		
			... 06:05:46 PM	TRIP	::L85.BOOLarray.@Alarm s.ConveyorSta3Jam	Jam on conveyor station 3		
			... 06:05:33 PM	TRIP	::L85.BOOLarray.@Alarm s.M101 Trip	Motor 101 Trip condition		
			... 05:49:58 PM	TRIP	::L85.Mixer2LevelH	Mixer2 level high		
			... 05:49:58 PM	TRIP	::L85.Mixer1LevelH	Mixer1 level high		

View Designer and PanelView 5000 V5

Released with Studio 5000 v32 – December 2018

■ Auto Logoff

- Enable auto logoff and configure a logoff time to automatically secure a terminal which is no longer in use.
- If no operator action is seen on the terminal for a length of time equal to the logout time, the current operator will be logged off.
 - Returns control to the guest user, and terminal behavior is dictated by the role of the guest user just like any other operator log off.
 - For example, if the guest user role is “None”, the terminal will return to the home screen with read-only access.
- System tags can be used to monitor auto logoff status on the terminal.



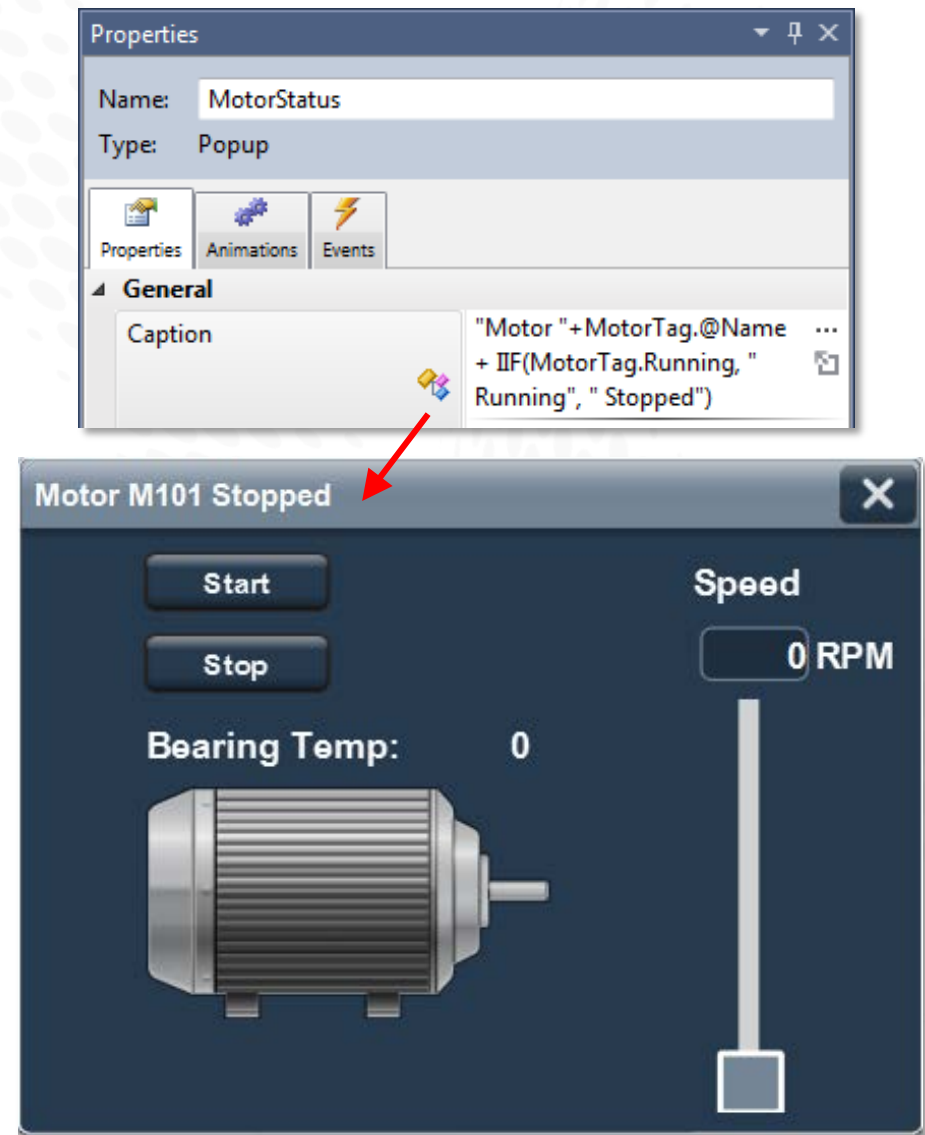
The screenshot shows the 'HMI Device Tags' window. At the top, there is a search bar and a breadcrumb path: 'Local:HMIDevice > HMI Device Tags > AutoLogoff'. Below this is a table with three columns: 'Name', 'Data Type', and 'Description'.

Name	Data Type	Description
Delay	DINT	Duration of inactivity before logoff
Enable	BOOL	Enable automatic logoff
RemainingTime	DINT	Remaining time to elapse before logoff

View Designer and PanelView 5000 V5

Released with Studio 5000 v32 – December 2018

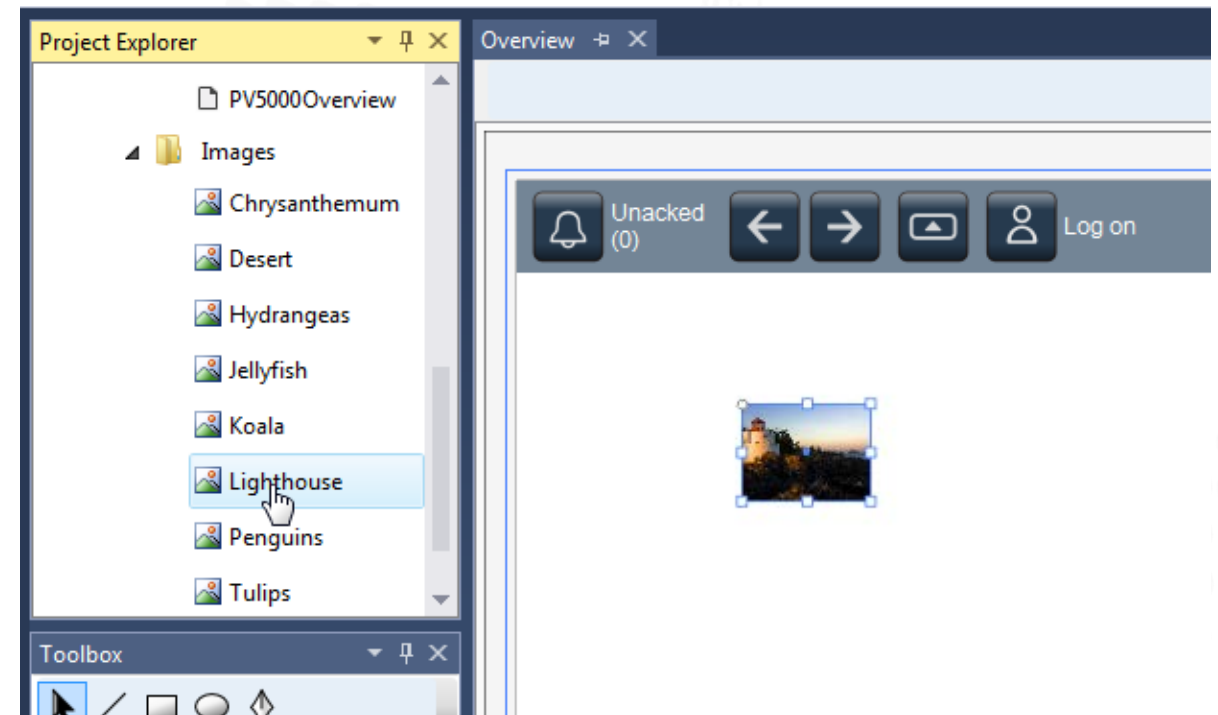
- Bindable captions on popups
 - Allow popup captions to change programmatically.
 - Include values, tag names, etc. along with static text using the concatenation (+) operator.
 - Useful to display instance tag names and descriptions for reusable popups.



View Designer and PanelView 5000 V5

Released with Studio 5000 v32 – December 2018

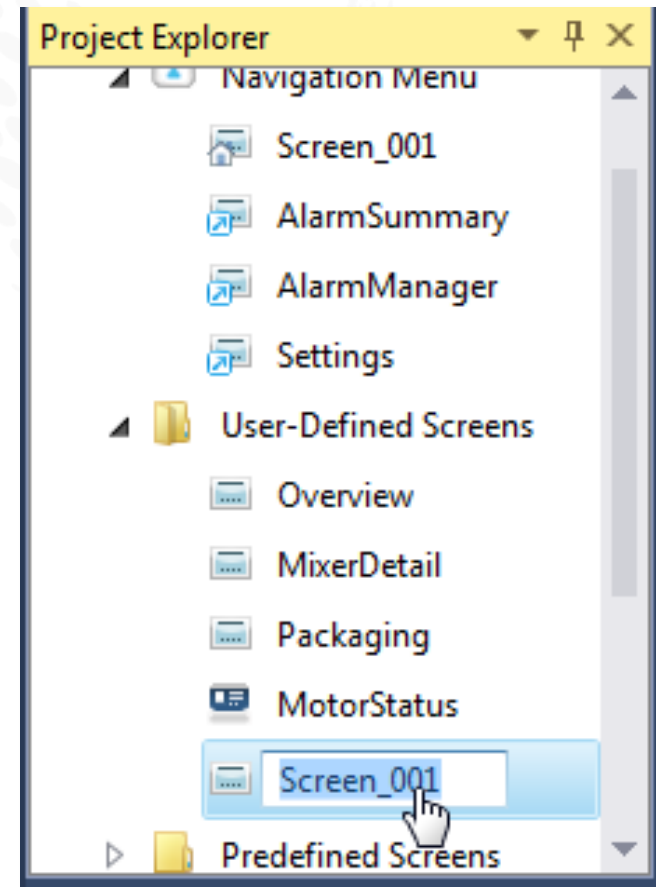
- Drop images, Add-On Graphics, and PDF documents onto the canvas from the Project Explorer
- Drop content in the Project Explorer directly onto the screen canvas.
- Automatically instantiates the Image, Add-On Graphic, or PDF Viewer.
- Faster and more convenient than first instantiating the viewer element and then pointing at a specific Image or PDF.



View Designer and PanelView 5000 V5

Released with Studio 5000 v32 – December 2018

- Inline editing of names in Project Explorer
 - Clicking on a name in Project Explorer puts the name directly in edit mode.
 - More intuitive and faster than Right Click > Rename.



View Designer and PanelView 5000 V5

Released with Studio 5000 v32 – December 2018

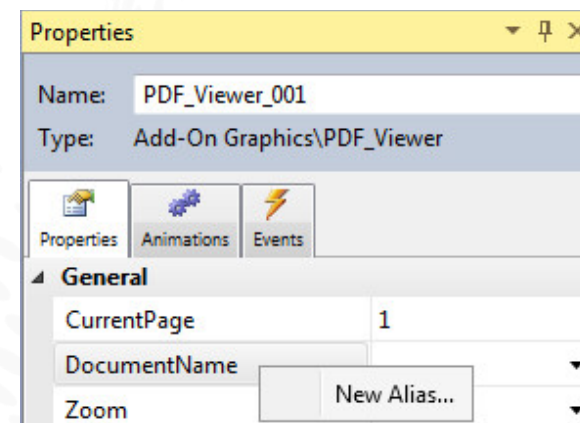
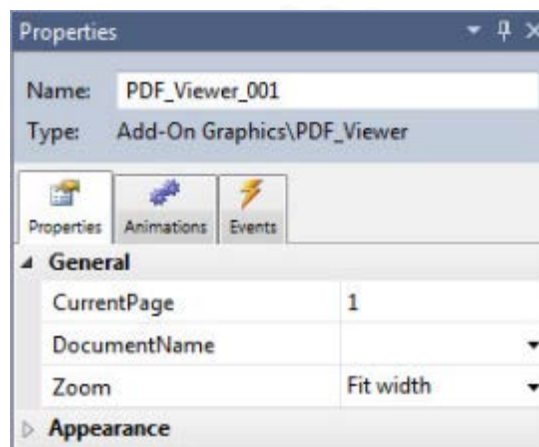
- Futures – Subject to CHANGE!

- Top features planned for V6 release in Q4 CY2019:
 - Project Event command triggers
 - Email notifications
 - Load firmware from removable media
 - Alarm log viewer
 - ...

View Designer and PanelView 5000 V5

How to specify multiple PDFs for a single PDF Viewer

- Use an alias for the Document Name property of the PDF_Viewer AOG.
- Once the PDF_Viewer AOG has been placed onto a User Defined display, create an alias for the DocumentName property of the PDF_Viewer AOG instance.
- DocumentName_001 is the alias for DocumentName



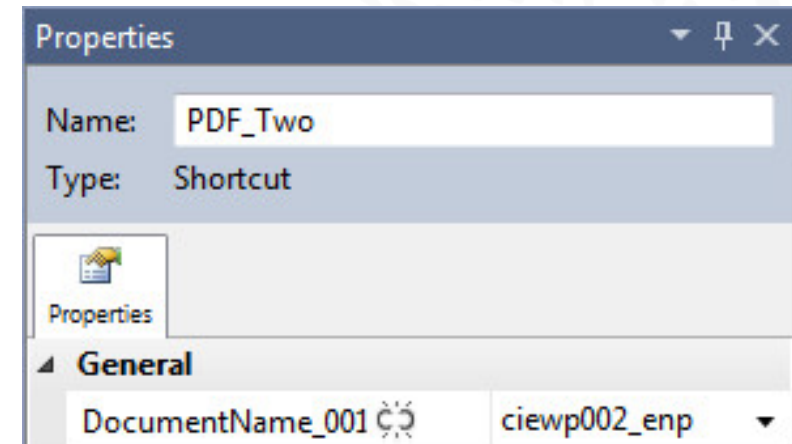
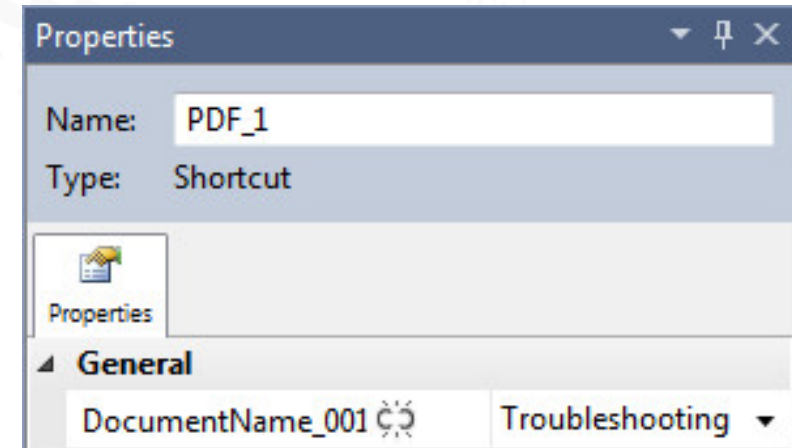
Design / Property Definition			
Name	Alias For	Data Type	Description
DocumentName_001	PDF_Viewer_001.DocumentName		Select the PDF document to display
* [Blue box]			

View Designer and PanelView 5000 V5

How to specify multiple PDFs for a single PDF Viewer

Then create shortcuts for the PDF Viewer User Defined display that specifies the specific PDF

- Shortcut PDF_1 is a shortcut to the User Defined display that contains an instance of the PDF_Viewer AOG. It specifies the Troubleshooting PDF.
- Shortcut PDF_Two is another shortcut to the same User Defined display that contains an instance of the PDF_Viewer AOG. It specifies the ciewp002_enp PDF.



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Feature Set for View Designer and PanelView™ 5000 V5

- PanelView™ 5310 enhancements:
 - Support for PDF Viewer
 - Increased limit from 50 screens to **100 screens**
 - New 10 inch screen size
- **4 controllers support for PanelView™ 5510**
- **Logix tag-based alarms support**
- Auto logoff
- Bindable popup captions
- Project Explorer enhancements:
 - Inline editing of Project Explorer item names
 - Directly drag AOGs, PDFs, and images from Project Explorer to the screen

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PanelView™ 5500 and Studio 5000 View Designer® – Introductory Lab

- Starting a project from scratch
 - Download Controller Project
 - Understand the Studio View Designer Software
 - Graphic Elements
 - Property Binding
 - Animation and Events
 - Navigation
 - Alarms
 - Runtime Diagnostics
 - Emulate
 - Security
- Optional Sections – May not be able to complete them all
 - PDF Viewer
 - Automation Device Faceplates
- Hardware Information
 - PanelView™ 5510 9-inch terminals
 - CompactLogix™ 5380
- Address and Location Information
 - Refer to labels on your lab monitor

PanelView™ 5500 and Studio 5000 View Designer® – Sessions

- VZ11 - PanelView 5000 and Studio 5000 View Designer Introductory Lab

Other labs which can be provided on request...

- VZ01 - PanelView 5500 and Studio 5000 View Designer Advanced Lab
- VZ06 - Designing Machine-level HMI with Studio 5000 View
- VZ09 - How to Improve Plant Operations Through Better HMI Graphics
- VZ15 - Unlock Advanced Features of PanelView™ 5000 and Build Smarter Machines with Studio 5000 View Designer™
- VZ17 - What's New in Visualization



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Thank you



Contact me via LinkedIn! – **Karel Stibor**